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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/828,907      | 04/10/2001  | Shmuel Eidelman      | 00479.00033         | 1031             |

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WASHINGTON, DC 20001

EXAMINER

KUHAR, ANTHONY J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1754

9

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/828,907

Applicant(s)

EIDELMAN ET AL.

Examiner

Anthony J Kuhar

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1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 6 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Rejections Maintained******Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,232,519 B1 in view of Holt '188. Instant claims 1-6, 6, and 7 correspond to claims 3-7, 1, and 2 of U.S. Patent NO. 6,232,519 B1 and meet the limitation of the reactive compound being an essentially stoichiometric combination of sulfur and a metal selected from the group0 consisting of zirconium, chromium, indium, titanium, manganese, iron, and blends thereof. U.S. Patent No. 6,232,519 B1 dos not disclose that the reactive compound may also be an essentially stoichiometric combination of carbon and a metal selected from the group consisting of hafnium, zirconium, titanium, silicon, and blends thereof. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an essentially stoichiometric combination of carbon and a metal selected from the group consisting of hafnium, zirconium, titanium, silicon, and blends thereof as the reactive compound that undergoes a self-propagating

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high temperature synthesis (SHS) reaction in the process of U.S. Patent NO. 6,232,519 B1 because Holt et al teaches that Ti, B, C, Ta, Al, Se, Zr, Mg, Ni, W, Cr, Hf and mixtures thereof are exoergic materials which react to release relatively large quantities of energy and which are capable of sustaining a self-propagating combustion synthesis reaction and also form composite materials such as borides, sulfides, selenides, aluminides, and silicides (col. 5, ln. 31-36 and col. 6, ln. 60- col. 7, ln. 15). Therefore, the sulfur with zirconium and /or titanium reactive compound and the carbon with hafnium, zirconium, titanium, and/or silicon reactive compound are known SHS reaction equivalents, which each can be substituted for one another for the same purpose of creating a SHS reaction. In re Fout, 675 F. 2d 297, 213 USPQ 532 (CCPA 1982).

### ***Response to Arguments***

Applicant's arguments filed 10/8/02 have been fully considered but they are not persuasive. Applicant argues that Holt does not suggest carbon with hafnium, zirconium, titanium, and or silicon reactive compound are known as SHS reaction equivalents to sulfur with zirconium and /or titanium reactive compounds. Applicant argues sulfides are included among several examples of the so-called useful product formed from the combustion synthesis reaction, but is not mentioned in the list of exoergic materials in column 5, lines 35-36. However, in order for sulfides to form in the final product, sulfur must be present in the reactants of the self-propagating combustion synthesis reaction in order to form the sulfide.

Applicant argues there is nothing in Holt '188 to suggest carbon and a metal selected from the group consisting of hafnium, zirconium, titanium, silicon, and blends thereof as a functionally equivalent reactant with sulfur and a metal from the group consisting of zirconium,

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chromium, indium, titanium, manganese, iron, and blends thereof. This is not true as Holt '188 teaches Zr, Cr, Ti, and mixtures thereof along with the suggestion of sulfur as materials capable of sustaining a self-propagating combustion synthesis reaction. In the same group, he points out carbon, hafnium, zirconium, titanium, and mixtures thereof along with the suggestion of silicon (by stating silicides in the reaction product in column 6, line 62). Despite the differences in the goals of the reaction product between applicant and Holt '188, one of ordinary skill in the art could have formed the groups taught by applicant from the groups taught by Holt '188 because virtually every material to undergo SHS reaction claimed by applicant is taught or suggested by Holt '188.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J Kuhar whose telephone number is 703-305-7095. The examiner can normally be reached on 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stan Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-305-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AK

AK  
October 28, 2002

  
**STEVEN BOS  
PRIMARY EXAMINER  
GROUP 1100**